

# 1 VQE results Aer Estimator (No Shots)

(Full Hamiltonian)				Double Well	$\Lambda = 16$	COYBLA Max 10K Iterations			
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	$\Delta_{min}$	VQE median E.	$\Delta_{median}$	Exact	Time
RA r1 l	1e-01	100/100	93	1.0459e+00	1.5434e-01	1.5574e+00	6.6578e-01	8.916e-01	00h 00m 24s
RA r1 l	1e-01	100/100	93	1.0459e+00	1.5434e-01	1.5574e+00	6.6578e-01	-	00h 00m 24s
RA r1 l	1e-02	100/100	292	9.0103e-01	9.4271e-03	9.7267e-01	8.1071e-02	-	00h 01m 14s
RA r1 l	1e-03	100/100	1268	8.936e-01	2.0018e-03	8.9703e-01	5.4316e-03	-	00h 05m 47s
RA r1 l	1e-04	100/100	2531	8.933e-01	1.7012e-03	8.9547e-01	3.8736e-03	-	00h 12m 15s
RA r1 l	1e-05	67/100	3812	8.9365e-01	2.049e-03	8.9545e-01	3.8465e-03	-	00h 25m 42s
RA r1 l	1e-06	53/100	5118	8.9369e-01	2.0943e-03	8.9371e-01	2.1091e-03	-	00h 34m 28s
RA r1 l	1e-07	28/100	5128	8.937e-01	2.0983e-03	8.937e-01	2.1e-03	-	00h 47m 35s
RA r1 l	1e-08	22/100	5063	8.937e-01	2.0996e-03	8.9547e-01	3.8697e-03	-	00h 44m 12s
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	$\Delta_{min}$	VQE median E.	$\Delta_{median}$	Exact	Time

Table 1